Aquaponics

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This document outlines the low level design for an aquaponics system. This system is intended to be fully automated and modular, running without the necessity direct end-user input or technical knowledge. The system was designed by the 2014 MURI Grant Aquaponics Team, directed by Dr. David Goodman, and Mr. Bob Durkin. This aquaponics system consists of an aquaculture tank, used to grow freshwater prawns, a reservoir tank, a de-chlorination tank; three horticultural grow beds used to cultivate greens, and an automation system for water flow, temperature, dissolved oxygen, and PH control. These components are combined together in a modular stand designed for use in a ten foot by ten foot area. The design of this system was broken up into tasks assigned to individual members of Dr. Goodman's aquaponics team. Each team member was responsible for the research and design of all aspects of his individual task. The end goal of this project is to create a marketable, 'green living' indoor garden for use in residential homes and apartments. This aquaponics system will be modular in order to fulfill the needs of the consumer, and automated in order to be used without technical skill or knowledge of the end user.

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